

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
TERNOPIL IVAN PULUJNATIONAL TECHNICAL UNIVERSITY
FOREIGN STUDENTS FACULTY
DEPARTMENT OF COMPUTER SCIENCES

AMOBI CHIJOKE EMMANUEL

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Modeling of interaction between website and clustered environment

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Abstract

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Supervisor: Candidate of Physical and Mathematical Sciences, Associate Professor of Computer Sciences Department
Skorenkyy Yuriy Lyubomyrovych,
Ternopil Ivan Puluj National Technical University

Reviewer: Candidate of Technical Sciences, Associate Professor of Computer Sciences Department
Baran Ihor Olehovych,
Ternopil Ivan Puluj National Technical University

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GENERAL DESCRIPTION OF WORK

WWW rapid growth in the past decades has created opportunities for the emergence and development of such phenomena as social networks and social engineering, electronic commerce, Internet of things. Investigations of the structure of social networks has shown that connectivity of individuals, homogeneity of their age, gender, affiliation to social strata, spatial distribution are crucial for stability of the network and allow to minimize costs of maintaining contact. To optimize website policy for a company specializing in e-commerce and providing information services, it is important to promptly assess spatial distribution and commonalities of interests for individuals who interact through the site. There is a trend towards the emergence of dynamic groups (clusters) of users, and the structure of these clusters and their connectivity are influenced by the structure of WWW, local cultural, demographic, technological features.

Thus, modeling of the website with clustered community of users and business partners is an actual scientific and practical problem that defines the scope of research thesis.

Goal of the study is to devise practical recommendations for Suleto.ng owners about optimization of site management within the model of web-site interaction with the clustered environment for improving customer online experiences.

Subject matter of the study is the field of information technology which encompasses the communication process of web-site users among themselves and with suppliers of goods and services.

Scope of the study is the phenomenon of clusterization of e-commerce web-site community within the model of web-site interaction with the clustered environment.

Methods of study. During the study statistical method, graphical analysis, comparative analysis, mathematical modeling, empirical method were implemented.

Scientific novelty of the results:

- development of the web and ecommerce has been analyzed in context of scope of the study;
- technology of web-site development been analyzed in context of scope of the study;
- the adequate model of mutual interactions of e-commerce web-sites and users has been chosen;
- the model within semantic, graphical and statistical approaches has been characterized;
- parameters determining connectivity of individuals have been singled out;
- policies to be implemented by owners of e-commerce sites have been proposed.

Practical importance of the obtained results is proven by their application for improving the policies and development of e-commerce website suleto.ng.

Approbation. Some results of work were reported at the V International scientific conference of young scientists and students "Actual tasks of modern technologies", Ternopil, TNTU, 17-18 November 2016.

The structure of the work. The work consists of an introduction, 5 parts, conclusions and applications in total of 110 A4 pages.

MAIN CONTENTS

In the introduction, the actuality of the subject matter of the study, stated goals and objectives, the state of scientific development topics, scientific novelty of the research, practical significance, approbation of the results have been characterized.

In the analytical part an analysis of the issue according to the literature and other sources, the features of functioning of e-commerce and the formation of site community has been done. Author determined the model to describe the interaction of users and identified possible configurations of the model, described how to collect user data for the purposes of research and analysed the available data. On this basis, recommendations to improve how users use the site suleto.ng and methods of optimization has been proposed.

In the special part the capabilities of appropriate software has been studied.

In the technological part calculations of technical and economic efficiency have been done.

In the part of "Health and safety in emergency situations" planning of labor protection system, which is the subject of analysis in the work and legal foundations of security in emergency situations are done.

In the "Ecology" part the current status, the issues of pollution arising from the implementation of processes are analyzed and measures to reduce environmental pollution are proposed.

In general conclusions of the thesis the results of analysis are presented and general recommendations that can be implemented while optimizing ecommerce site are formulated.

CONCLUSIONS

Clustering of e-commerce web-site users, both customers and suppliers, is the process of dynamic grouping of these, so that objects within a cluster have high similarity in comparison to one another. Dissimilarity is due to the attributes values that describe the objects interests, living style and environment, local culture, nationality, age and gender.

Having a strong data collection setup and access to detailed reports in services provided by an ecommerce site, using Google Analytics, and other analytics tool will provide us with the information we need to make tough, but critical business decisions on base of proper portioning into groups on the basis of data similarity and the then assigning labels to the comparatively smaller number of groups.

Monitoring the traffic of any ecommerce website is something that we and every other ecommerce site should be very much concerned about in order to see how well the site is performing.

E-commerce business owners should be noting how many visitors their website is getting, how long they are staying on the site, and where exactly they are losing business the information gathered during or after the analytics will go a long way to enable proper understanding of site users and what interests they show and eventually help enhance their experience.

List of works published by the author on the topic of diploma thesis

1. Emmanuel C.A. Simulation of a website interaction with clusterized environment [Text] / Amobi.C.Emmanuel // Proceedings of abstracts of V International scientific conference of young scientists and students "Actual tasks of modern technologies", 17-18 November 2016 - T. : TNTU, 2016 - Volume I. - P. 30.

SUMMARY

In present work, simulation of web-site interaction with clusterized environment has been performed and the factors determining connectedness of users are determined wich allows optimization of site development policies ..

Key words: INFORMATION TECHNOLOGIES, SOCIAL NETWORK, CLUSTER OF USERS, CONNECTEDNESS, E-COMMERCE